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### When your patient DOES know best: A lesson in geriatrics

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INTRODUCTION

An athletic elderly woman presented to the emergency department (ED) with subjective leg weakness, most notably while climbing stairs. The patient's insistence that we acknowledge her change in functional status prompted a workup that exposed an active pauci-immune crescentic glomerulonephritis.

She was diagnosed with an unusual presentation of granulomatosis with polyangiitis (GPA) which was discovered in time to initiate treatment and prevent renal failure.

CASE REPORT

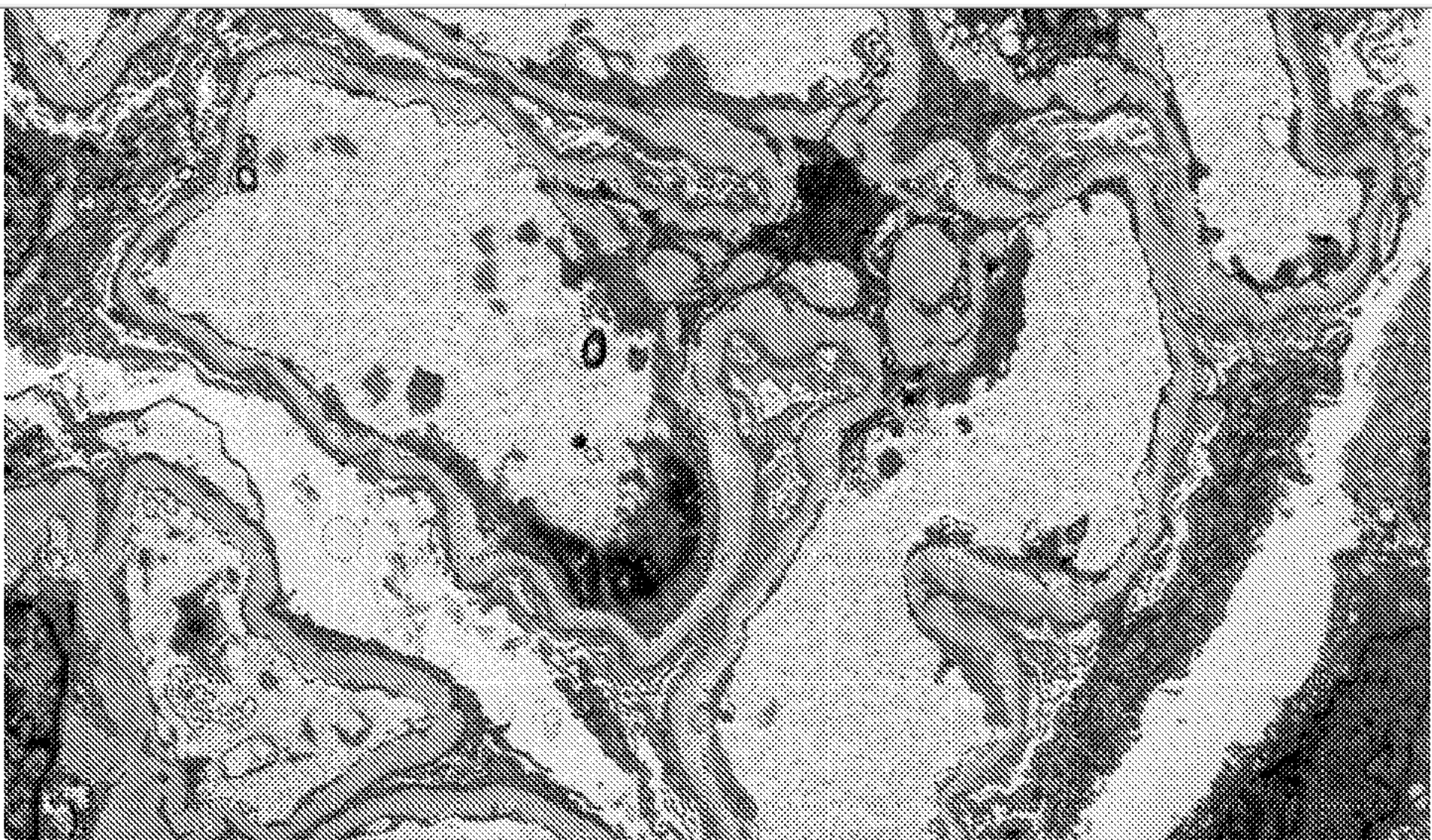
A 77 year-old woman with a past medical history of chronic kidney disease (CKD) and biopsy-negative pulmonary nodules presented to the ED with a unique complaint: she could no longer climb multiple stairs in a single step, and found she was pulling herself up one step at a time. It was suggested that she follow up outpatient for rheumatologic workup. She requested admission, stating she wanted to stay until she felt confident she could dance at her grandson's wedding ten days later.

On examination, she had mild relative weakness of the hip flexors bilaterally, a common finding for elderly patients in the hospital.

Elevated ESR and CRP were discovered in the setting of gradually worsening chronic kidney disease over 3 years. ANCA vasculitis was suspected due to serology:

MYELOPEROXIDASE AB...	0 *
Serine PR3 (ANCA)	253 * ▲

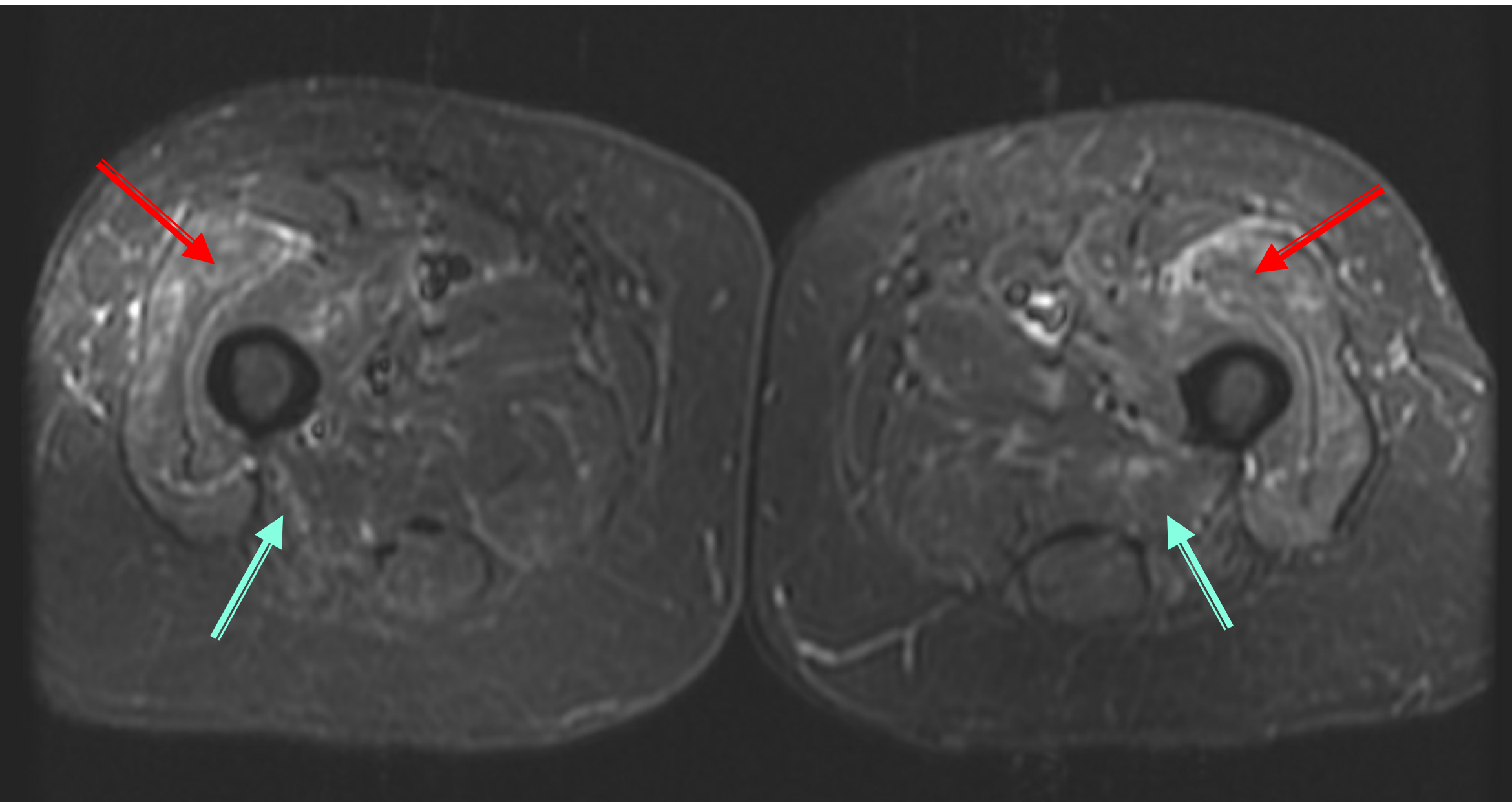
Renal biopsy confirmed necrotic changes and diffuse acute on chronic inflammation consistent with pauci-immune crescentic glomerulonephritis due to ANCA-associated vasculitis. High-dose IV steroids were started days later, just in time to abort a rapid progression into renal failure; she achieved maintenance of remission on rituximab.



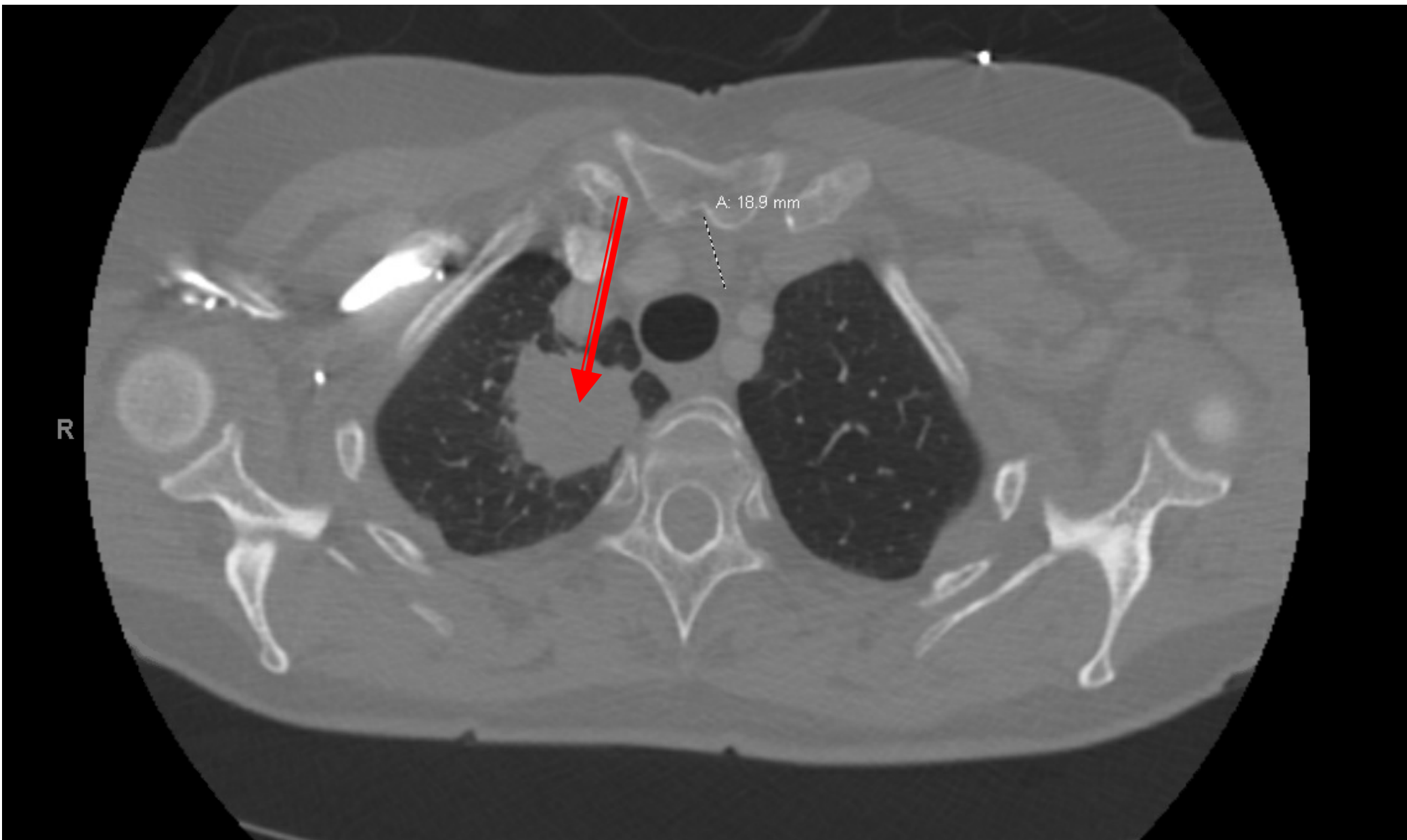
**Figure 1.** Renal biopsy electron microscopy: "The biopsy exhibits features of pauci-immune crescentic glomerulonephritis... The crescents are characterized by tuft destruction and epithelial proliferation admixed with fibrin and occasional inflammatory cells."

After discharge, she celebrated return of her renal function to baseline, and remains dialysis-free. She resumed her habit of walking 2 miles a day, and most importantly, she was able to fully enjoy her grandson's wedding.

Imaging



**Figure 2.** MRI of thighs shows diffuse edema of the vastus lateralis and biceps femoris bilaterally.



**Figure 3.** CT of chest with multiple lung nodules, biopsied in 2017 as necrotic tissue only.

DISCUSSION

*William Osler once said, "Listen to your patient; he is telling you the diagnosis."*

Listening to our patients' concerns can help providers untangle unusual presentations of common diseases, or even uncommon diagnoses. In this case, a spry 77 year-old woman was forced to climb the stairs a single step at a time, which initially did not strike the provider team as necessitating expedited inpatient workup. We discovered that the ANCA vasculitis was causing an inflammatory myopathy. Based on the findings on the renal biopsy, the nephrologist estimated that she may have experienced progressive glomerulosclerosis resulting in end-stage renal disease within the month if left untreated.

Many elderly patients experience decreases in their exercise performance due to age-related loss of muscle mass called *sarcopenia*, which is poorly understood. It is theorized that mitochondrial dysfunction, in part related to mitochondrial reactive oxygen species, activates a signaling cascade resulting in apoptosis and loss of skeletal muscle fibers over time.<sup>1</sup>

However, individual patients of a similar age can have varying degrees of baseline fitness. The patient was already engaged in a daily aerobic exercise regimen, which is known to prevent sarcopenia when combined with adequate protein-calorie nutrition.<sup>2</sup> Assuming that her body was simply behaving more like the average woman of her age would caused us to miss the diagnosis during the critical time period. It was the stark comparison to the patient's normal that highlighted how her disease was accelerating.

While GPA is not uncommonly diagnosed in the elderly, it is certainly rare for GPA to present with a chief complaint of muscle weakness. A similar case reported in January 2020 described a 76 year-old woman presenting with generalized weakness and abdominal pain, who was similarly found to have incidentally discovered pulmonary nodules. However, in that case, the pauci-immune necrotizing and crescentic glomerulonephritis resulted in rapid onset of renal failure, ultimately necessitating long-term hemodialysis.<sup>3</sup>

This humbling case, in which the patient's self-advocacy was instrumental in reaching a final diagnosis in time to prevent irreparable organ damage, was a reminder to the team that our patients really do know their bodies best.

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